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ABSTRACT

A model of assisting students in the transition to university education is presented that takes a developmental approach. This Integrated Development of English Language and Academic Literacy and Learning (IDEALL) model recognizes that all students need to develop new or more sophisticated academic skills for the new environment and that the most effective way of assisting students is to integrate instruction in both generic and discipline-specific academic skills inside the curriculum. The model revolves around collaboration between discipline and learning developmental academics in the production of learning materials tailored to the needs of the curriculum and the provision of subject-based workshops that are team taught by staff from the discipline and the learning development unit. Data from two case studies of the IDEALL approach are presented. One case describes the use of the IDEALL approach in an Introduction to Management course, and the other describes the approach taken with approximately 350 students in an introductory biology course. Data from these studies suggest that the model can increase the learning outcomes achieved by students substantially. (Contains 8 references.) (SLD)

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The IDEALL Approach to Learning Development: A Model for Fostering Improved Literacy and Learning Outcomes for Students

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The IDEALL approach to Learning Development: a model for fostering improved literacy and learning outcomes for students

Jan Skillen, Margaret Merten, Neil Trivett & Alisa Percy, University of Wollongong

Abstract

An increasingly accepted viewpoint in tertiary education today is that the diverse student population entering university at first year level requires support with the transition process from previous education contexts to that of tertiary education. While Learning Centres were initially developed to assist that transition, the support they offered was limited: it was remedial in the sense of 'fixing-up' the students who were diagnosed (either by themselves or their lecturers) as needing 'help'; it was inequitable, assisting only a very small proportion of the students population; and it was generic in that the learning support was offered outside of the disciplines being studied.

A newer model of assisting students with the transition process, which we call the 'IDEAL' approach, takes a less remedial, more developmental approach. It recognises that all students will need to develop new or more sophisticated academic skills suitable for their new environment and that the most effective way of assisting students is to integrate instruction in both generic and discipline-specific academic skills inside the curriculum. The model revolves around collaboration between discipline and learning development academics in the production of learning materials tailored to the needs of the curriculum and/or the provision of subject-based workshops that are team taught by staff from the discipline and the learning development unit.

This paper will detail this IDEALL approach to learning development (Integrated Development of English language and Academic Literacy and Learning) and will present data from two case studies of integration (in two very different disciplines) which suggest that this model can substantially increase the learning outcomes achieved by students.

Introduction

Over the past 20 years, Australian universities have increasingly recognised the need to offer more comprehensive and systematic learning development to students in their transition from secondary to tertiary education. Previously, a 'do nothing' approach existed which required students to acquire the literacy practices and conventions of their discipline areas through a process of 'osmosis' (Baldauf, 1996). This 'sink or swim' model or approach (Skillen & Mahony, 1997) meant that many students did not operate at their full academic potential. A later model of learning development was to establish Learning Centres to assist students' transition in terms of generic academic skills. This approach, however, was limited. It targeted students in the lower range of student potential and was distinctly remedial and generic in nature, and inefficient and inequitable, as well. In response to these limitations, a new 'integrated' approach was developed in the late 1990s. This approach recognised that learning development was more effective and relevant when offered within discipline-specific contexts (Merten, Murray & Quinlan, 1995). While this approach was a great improvement on the remedial and generic approach, it often still operated in a fairly piece-meal and generic way and contained little opportunities for staff development.

This paper will give a brief overview of these previous models and will outline the IDEALL model of learning development, a newer approach that builds on and extends previous models

of learning development within the higher education system and that fosters improved kiteracy and learning outcomes for students. The model was developed at the University of Wollongong by Learning Development in response to the limitations of previous models and the need for greater cost-effectiveness and efficiency because of increasing pressure on limited resources. It is based on the premise that all students require assistance with the transition from secondary to tertiary education and, more specifically, with the transition into disciplines. To cater to this need, the model encompasses a systemic, developmental framework in which discipline and learning development staff collaboratively integrate instruction and assessment of skills into curricula. Such integration ensures that all students within a cohort acquire the literacy practices and conventions of their disciplines of study.

Models of Learning Development

The models of learning development which have existed within the Australian Higher Education sector over the last twenty-five to thirty years[1] reflect both the student populations of their time and the amount of responsibility taken at institutional levels for the development of students' skills. During this time there has been an increasing diversity in student populations and a growing sense of the need for institutional cost-effectiveness and accountability in their teaching practices. Models have ranged from the 'do nothing' model to the 'integrated' model.

The 'do nothing' model

The earliest model was one that had been in existence for some time: this was the 'do nothing' approach. The system offered 'nothing' in terms of learning development, because those students who managed to enter the hallowed portals of universities were more likely to have been exposed to academic forms of language and literacy, an exposure which assisted in the development of their skills. Students were perhaps also more likely to have the intellectual skills to achieve the time-consuming and nebulous 'osmosis' (Baldauf, 1996) necessary to close the gap between their secondary-level skills and those of the tertiary setting. This osmosis involved the analysis (mostly unconscious) of the texts they were exposed to, so that they could successfully replicate the style and structure of both generic and discipline-specific academic writing.

This 'do nothing' approach was thus a 'sink or swim' approach (Skillen & Mahony, 1997). Students were on their own: if they were able to independently acquire the skills necessary in the academic setting via osmosis in the time frame required, they could be successful; if they could not, they risked failing. Responsibility for acquiring the skills was thus seen as the student's, not the institution's. Institutions expected students to already have the necessary skills; they did not expect to have to teach those skills or assist students' development in any formal way.[2]

This model, however, was flawed because:

- it did not recognise the need for all students to acquire new skills suitable for tertiary and discipline-specific contexts;
- it did not capitalise on students' intellectual potential by providing them with the skills to be successful; and
- it was inequitable, considering an increasing student diversity.

The model did not recognise the need for all students, regardless of their previous educational, social, or linguistic background, to acquire the skills suitable for the tertiary setting they were

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[1] See Skillen and Mahoney (1997) for an explanation of the models in terms of a health and illness paradigm.

[2] Evidence suggests that limited support was given informally by some lecturers to students in the form of classroom or one-to-one talks about essay writing (personal communication, MacNeil, 1998).

entering and for the discipline-specific contexts they were entering at university. Most students, however, could not have entered university equipped with such skills because they came from secondary institutions with the skills suitable for that context. Becoming equipped with these new skills necessitates at least exposure to the conventions of tertiary study, and to generic and discipline-specific academic language and literacy, and, at most, explicit instruction in these skills.

This model was also unable to capitalise on the students' intellectual potential. Quite intellectually-capable students who were unfamiliar with the conventions of their discipline must have struggled to acquire the necessary skills or simply dropped out of university study. Within such an alien learning environment, students could have taken their whle period of study to identify and develop those skills through the process of 'osmosis' and until this osmotic process had taken place may have been unable to successfully acquire or exploit the disciplinary knowledge that they were being exposed to.

The inequity of this model became particularly obvious in Australia during the 1970s - 80s as the student population became increasingly diverse. In this period, the policies of the Whitlam era increased the participation rates of low SES students in higher education as did the amalgamation of CAEs with universities (McLean, Surtie, Elphinstone & Devlin, 1995). The deregulation of tertiary institutions with Dawkins' 1989 recommendations also resulted in higher proportions of international students from Non-English Speaking Backgrounds and diverse learning cultures. These students increased the diversity of the university student population and added to the need for some form of transitional support to be included in the academic learning context.

The 'remedial' model

A later model, still in operation in many universities today, is based on the recognition that in an increasingly diverse student population, some students do not arrive at university equipped with the necessary skills. This is a model in which the institution takes more responsibility for the students' development of skills by providing access to language and literacy advisers who offer this assistance, usually in a one-to-one mode, from Learning Centres that operate outside of the curriculum. This model, however, has an underlying 'remedial' approach; that is, students who do not have the requisite skills are seen as deficient and in need of remedial assistance. The remedial nature of this assistance is its fundamental weakness because it fails to recognise that *all* students need to develop specific skills for operating effectively in both the tertiary and disciplinary contexts and it effectively categorises those brave enough to ask for help as 'deficient'.

This approach is also flawed for the following reasons:

- it is inefficient;
- it is inequitable;
- it isolates learning development from disciplinary contexts; and
- is usually generic in content

The remedial model is inefficient because its practice of one-to-one consultations is not an ideal way to reach high numbers of students and to impact in a positive way on the institution as a whole. This is a particularly serious shortcoming considering that all students need to develop skills suitable for the academic context generally and for specific disciplines. It can be argued that the time and money resources poured into such a remedial service are not used efficiently and effectively to support the student population and, in fact, that very few students are *able* to be supported by this model.

Entwined in the issue of cost-efficiency, is the issue of inequity. Even though the model offers equity in comparison to the previous 'do-nothing' model, the expenditure of resources in the one-to-one mode creates inequity because such a mode cannot support all students. In addition to this, anecdotal evidence suggests that many students, especially male students and some international students, tend not to seek assistance on a one-to-one basis because of a fear of 'losing face'. Thus, this model only caters for those who can ask for help, or those who, because of poor performance, are referred by their lecturer.

The remedial approach also marginalises learning development by keeping the development of academic skills on the 'fringe' of academic study instead of being situated as an integral part of all students' development. By operating outside of the curriculum, Learning Centres are isolated from the academic community and fail to play as valuable a role as they might within that community. In addition, the workshops and assistance offered by Learning Centres are usually generic in content and, as such, do not recognise or neglect the varying requirements of the disciplines.

The integrated model

This model first appeared in the early 1990s and is being increasingly adopted in various versions throughout academia. The model is basically an approach in which instruction in tertiary literacy and learning is integrated into curricula in various ways. While this model is a major improvement on older models of learning development, because of its recognition that the acquisition of skills is most effective when skills are taught within the context of study,[3] the model as it is commonly put into practice has a number of drawbacks.

Common practice has involved Learning Development lecturers presenting their one-off lecture, or series of lectures, in curriculum timetables in isolation from the subject lecturers and with sole responsibility for the students' development of skills (Chanock, 1994). This practice means that literacy and learning development remains piece-meal and generic with little relevance to the content of the curriculum being studied and fails to achieve effectiveness in terms of curriculum development. In fact, it may not influence the curriculum in any other way than by filling an empty space in the lecture or tutorial timetable.

This practice also fails to capitalise on the staff development that can take place when subject staff are actively involved in curriculum development and the integration of instruction. While learning development staff can quickly provide generic instruction, ensuring that discipline-specific and course-specific requirements are met requires the collaboration of subject staff. This more collaborative venture would require staff to develop a greater level of awareness about their own knowledge of the conventions and practices of their disciplines. This process would thus provide them with the meta-language to explicitly articulate these conventions and practices to students. This is sound strategy because, as Lea and Street (1998) show, academic staff "...know a good essay when [they] see it but cannot describe how to write [a good essay] (1998, p.163).

Another common practice in the integration model is to integrate a full credit-bearing subject into an overall degree program that is taught by Learning Development lecturers. While this approach indicates a certain degree of commitment and concern from the department in regard to supporting student's skills development, it is an approach that is removed from the context of the subject being studied and is one which may not necessarily reflect subject-specific skills (McKenna & Haslehurst, 1996). It is also an approach that remains within the generic and remedial framework. Although some skills-development subjects may have transferability to mainstream subjects, the fact that these subjects are traditionally taught by outside 'experts' (i.e.

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[3]Ramsden (1993) has shown that teaching is effective if students see the direct relevance of what is being taught/studied and if they have some extrinsic motivation for that learning.

Learning Development lecturers) keeps this approach firmly entrenched in the remedial model (Quinlan & Merten, 1998). While this form of integration focusses on students' skills development, it does not allow for any curriculum redevelopment, or the development of staff skills because it effectively separates content and skills into unrelated responsibilities within the course/degree program.

The IDEALL Approach

Learning Development at the University of Wollongong has extended the previous integration model of learning development by developing a new approach to learning development which we have titled the IDEALL approach (Integrated Development of English language and Academic Literacy and Learning). This approach is a systemic, curriculum-based and collaborative approach that serves to address the limitations of traditional models of learning support. Its basic philosophy is based on the recognition that all new students entering university need assistance in developing the necessary and appropriate skills for both the academic context in general and, more importantly, the discipline specific context. This need can be most effectively and equitably met by offering assistance to all students within curricula so that students acquire the skills which unlock and convey content as they learn about that content. By integrating or embedding learning development into curricula, it becomes contextualised, relevant and discipline-specific.

Integrating instruction into curricula requires collaboration with discipline staff in the process of diagnosing, designing and implementing the learning development. This approach is meaningful and successful because of a number of factors. Firstly, discipline staff have the opportunity to 'unpack' for the purposes of instruction their knowledge of the discipline. Secondly, Learning Development staff add their expertise in text analysis to further 'unpack' discipline-specific literacy which allows for a more sophisticated understanding of the disciplinary conventions within tertiary literacy. These two factors ensure that the instruction provided will allow students to circumvent the slow process of 'osmosis' and to more quickly acquire the skills suitable for the discipline being studied. This can be a great advantage when students are not able to easily negotiate the transition into new disciplinary environments and the process of discovering the conventions of those environments. In previous models, much of what was taught required students to transfer skills from generic instruction into disciplinary contexts. As Lea and Street found, students have difficulty in... "moving from subject to subject and knowing what [they're] meant to write in each one". (1998, p. 164) The IDEALL model removes these pressures on students by operating within subject contexts.

Procedures in the implementation of the model

The implementation of this model of learning development requires a set of procedures and processes. Because the model recognises that new students need to make the transition to tertiary and disciplinary settings as quickly as possible and because the model seeks efficiency and equity, first-year core subjects are targeted first for integration[4]. Once collaborative relationships between subject coordinators of these subjects and learning development staff are established, the procedures involved in integration can begin (see Table 1 on the following page). The procedures involved in implementation include the following:

- conducting a skills inventory of the curriculum,
- assessing students' literacy and language skills,
- designing and implementing tertiary literacy instruction; and
- evaluating student learning outcomes.

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[4] Second, third and fourth year core subjects are also targeted but first year core subjects are given priority.

The first step in the procedure is to conduct a skills inventory of the curriculum to identify which skills are required by the curriculum and to deconstruct these macro tertiary literacy skills into sets of micro skills. Essay writing, for example, can be deconstructed into a set of micro skills such as control of Academic English, argument structure, paragraphing, etc. Discipline staff may further deconstruct these micro skills in quite discipline-specific ways into such elements as *using evidence within essays* and *understanding what constitutes evidence in the discipline*. Such an inventory can be used to determine which skills require instruction within the curriculum; it can also begin the process of constructing a set of criteria for marking students' written assignments[5].

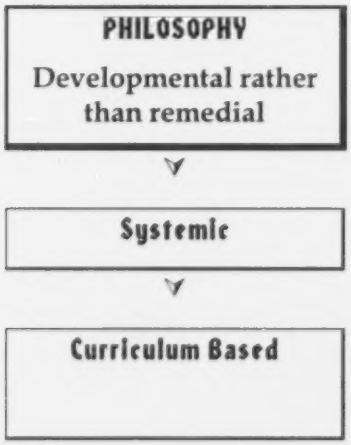
The second step in the procedure is an assessment of students' tertiary literacy skills that should be carried out on an *early* assignment within the curriculum using the marking criteria constructed for the task. Such an assessment assists in identifying those skills that need to be focussed on in instruction and allows a base-line level of skills to be identified that allows development to be measured throughout the semester/year. Assessment is carried out in conjunction with normal content marking by discipline staff[6], following a workshop in which Learning Development staff

- provide range of 'marked' examples of students' texts for discussion
- assist discipline staff to clarify their understanding of the marking criteria and
- assist in ensuring parity and consistency in the marking process.

Samples of actual students' work can be used to outline in detail each of the marking criteria and the range of skills found within these criteria. The materials for such a workshop can be collated into marking booklets and distributed to staff as a marking aide for future reference.

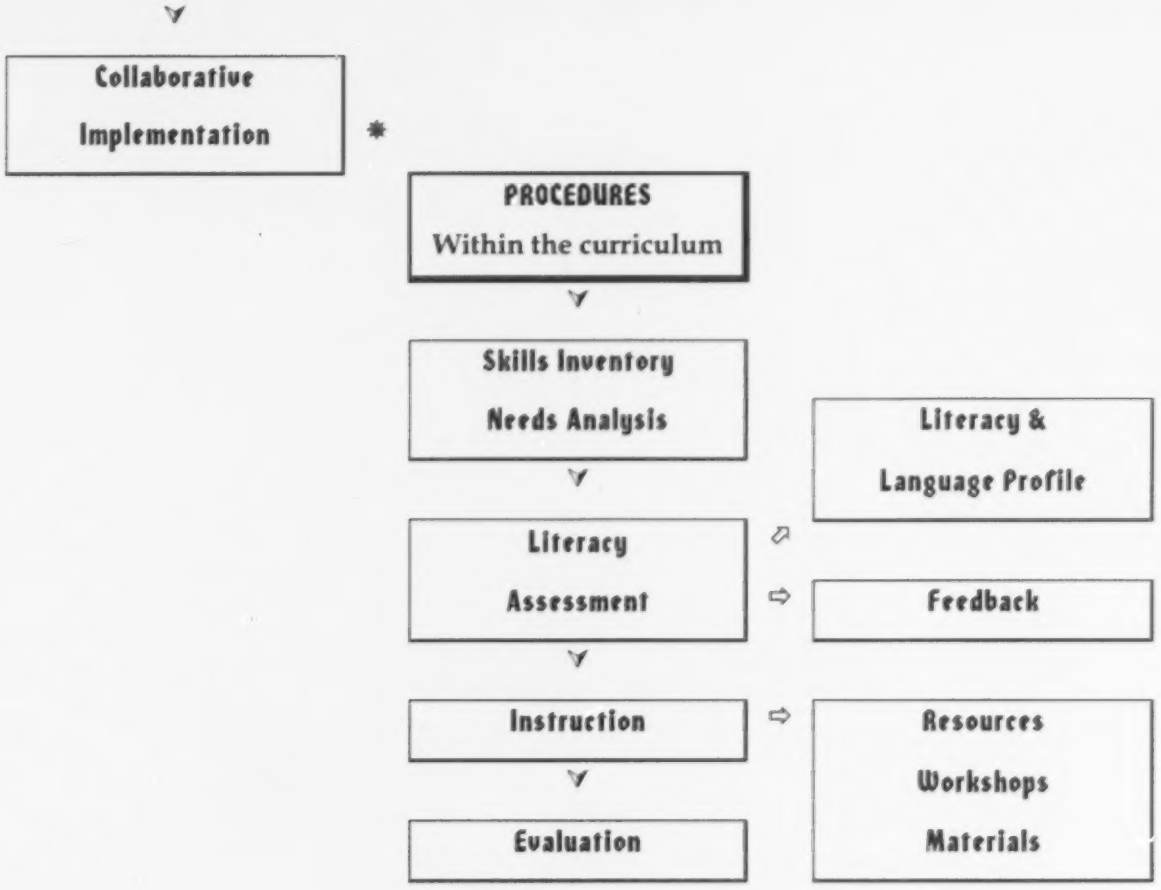
Table 1. **The IDEAL Approach**

Learning Development, University of Wollongong



[5] One of the most useful diagnostic or assessment tools in the tertiary setting is the *MASUS procedure: a diagnostic assessment*. (Bonanno &,Jones, 1997).

[6] In subjects with high numbers of International and NESB students, a second marking procedure can be carried out by literacy and language specialists on students' assignments using the MELSUS diagnostic tool (Percy, 1998), which is designed to measure discrete grammatical skills. This tool can diagnose which students are 'at risk' because of their English language problems. Such students can be referred to English language workshops outside the curriculum or to workshops offered within the curriculum that focus on teaching language skills through the subject content. Students' progress in these classes can be measured with entry and exit testing.



To ensure that assessment is formative as well as summative, literacy assessment must include feedback to students. Such feedback must be detailed enough that students are able to use this feedback to develop their skills for future assignments. The model also encourages staged assessment tasks and/or a number of assessment tasks, all of which are assessed for both literacy and content. Staged tasks not only allow students the opportunity to develop their skills but they also provide an opportunity to evaluate the improvement that takes place throughout the staging process.

The major phase of the IDEALL approach is that of instruction. This can take the form of classes and workshops team-taught by discipline and learning development staff or instructional resources that supplement or take the place of face-to-face instruction. The resources may be paper-based resources that teach the skills of critical reading, essay writing or report writing using the readings and assignment tasks of the subject. They may also take the form of web-based resources that can be stored in the subject web-site. Ideally, both types of resources and materials should be designed and produced by Learning Development in collaboration with discipline staff using the readings and assignment tasks of the subject

Evaluation is the final phase of the IDEALL approach. Evaluation needs to be carried out on two aspects of the intervention. The most important is an evaluation of the learning outcomes for students, ie. measuring the students' improvement in skills across the range of literacy criteria. The other evaluation concerns students' perceptions of the usefulness and relevance of the learning support, and staff's perceptions about the collaborative process, the resources and student learning outcomes. These issues will be discussed in more detail within the following case-studies.

Management Case Study

This case study outlines one example of the integration of the IDEAL Approach by Learning Development and subject staff into the first year compulsory subject: Introduction to Management (MGMT110) in the Commerce Faculty at the University of Wollongong. Learning Development and subject staff worked collaboratively to integrate instruction that would make explicit and teach the tertiary literacy skills necessary for student success within the subject and the discipline of management. The case study establishes the context of integration, and details the process of integrating this model of learning development into the subject.

Context

The Commerce Faculty is one of the largest and better-funded faculties on campus. The rise in popularity of Commerce degrees has seen an increase in both student numbers and diversity. The student diversity encompasses both local and international students from Non-English Speaking Backgrounds (NESB), post-secondary school students and mature-age students. Learning development and the Commerce Faculty aimed to better support these students as well as the whole cohort, by strengthening and systematising learning support so that assistance was offered within the curriculum context.

Procedure

The following table outlines the IDEAL procedure, the provision of support to students and the collabo

TABLE 2. **Integration in Management 110**

Ideal Procedure	**Provision of Support to Students**	**Collaboration with Staff**
Skills Inventory/Needs analysis		• Curriculum development • Development of diagnostic task • Development of marking criteria • Development and implementation of staff training workshop on Assessing Tertiary Literacy • Development of staff marking booklet for assessing tertiary literacy
Literacy assessment Feedback	• Feedback to students (follow up support was offered to students through the Learning Resource Centre)	
Instruction	• Essay writing workshop • Essay writing resource booklet • Exam preparation workshop • Exam preparation booklet	
Evaluation		• Development of evaluation survey

Skills Inventory and Needs Analysis

Subject staff and Learning Development lecturers held meetings to agree on a model of the IDEAL Approach that would suit their needs. In collaboration with academic staff, a skills inventory and needs analysis based on the subject MGMT110 was carried out to determine the skills in which students would need development. An initial literacy and language screening of the complete cohort was necessary to obtain a profile of the students' tertiary literacy skills that would identify the learning needs of the cohort.

Literacy Assessment

To assess students' skills and to develop the literacy and language profile of the students, the diagnostic tools MASUS (Measuring the Academic Skills of University Students, University of Sydney, 1996) and MELSUS (Measuring the English Language Skills of University Students, University of Wollongong, 1998) were used. The diagnostic procedure was carried out on a critical response to a discipline-specific article and entailed rating the macro- and micro-skills within the MASUS and MELSUS criteria on a four-point scale, 1-2 beingunacceptable and 3-4 being acceptable (see Figure 1 for cohort profile).

To ensure the relevance of the MASUS criteria to the subject, Learning Development lecturers and asubject staff held meetings to decide on a criteria of required skills for successful completion of this subject. To guide this process the criteria set out by MASUS was used. This was useful as a starting point in these meetings as MASUS has already established the most important generic macro- and micro-skills that are part of tertiary literacy. It classifies academic skills into the five macro-skills of information retrieval and integration of evidence; critical analysis, argumentation and structure; appropriate use of academic English; grammatical correctness; and presentation. Faculty staff were encouraged to manipulate it, create new categories, delete irrelevant skills and establish their own criteria suitable for the discipline.

An important aspect of staff development in this process was a marking workshop run by Learning Development lecturers for discipline staff. The workshop focussed on using the MASUS criteria and involved a 3 hour session, where specific examples of students' work from their diagnostic tasks were used to familiarise tutors with the MASUS marking criteria. This workshop was important because it offered an opportunity for staff training in assessing tertiary literacy and attempted to ensure marking consistency. Staff responded positively to this workshop and felt it was a valuable opportunity to discuss marking procedures and departmental expectations of first year students.

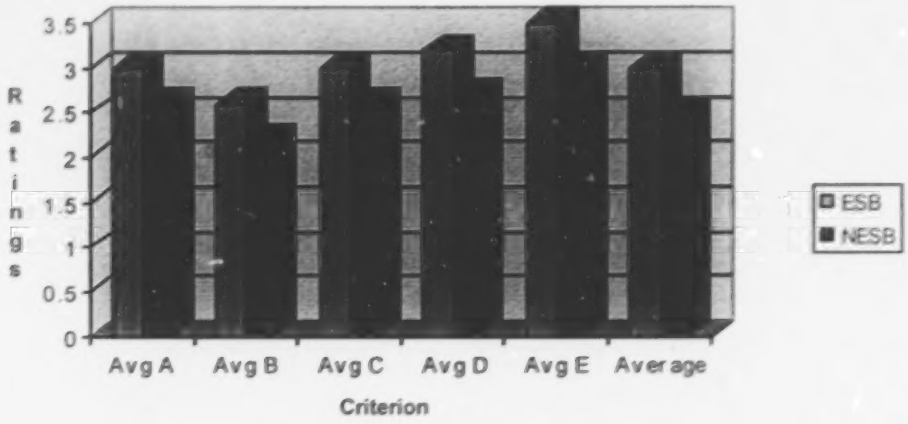
Due to the high proportion of international and NESB students, it was also necessary to measure students' English language skills with MELSUS, a separate rating tool, which breaks language into the following macro-categories; discrete points of grammar, sentence complexity and syntax, cohesion, punctuation and academic style. Unlike MASUS, which was marked by the discipline staff, MELSUS marking was carried out by Learning Development staff.

To ensure that assessment was formative, the writing task was integrated into Week 1 of the tutorial framework. This allowed the students to receive individual feedback about their level of skills[7] before their first major assignments were due. The results of this assessment allowed a profile of the cohort to be constructed which showed that there was a significant difference

[7] Students were directed towards further relevant support provided by Learning Development via its Learning Resource Centre. This centre is situated on campus and provides generic learning assistance in the form of academic and English language workshops, self-access resources and individual consultations. This generic assistance underpins the IDEAL procedure in faculty programs.

between the skills of the ESB and NESB (including international) students (see Figure 1 below)[8]. The results of this assessment informed the instruction given later in the session.

Figure 1: Students' average MASUS results according to their language background



Instruction

Discipline-specific support was integrated in the form of two developmental workshops that were integrated into the tutorial framework and were timed to coincide with the assessment schedule, so that students' needs in skills development could be met at an appropriate time. Attendance was high for both sets of workshops. The workshops covered essay writing and exam preparation and were team taught by discipline and LD staff. The content was based specifically on readings from the subject and focussed on the skills necessary for successful completion of the assessment tasks. The tutorial was supported by printed resources reflecting the content of the workshop which students could reflect on at later stages. These resources were made available in a handbook for students which can be redrafted each session in light of any changes made in the assessment tasks.

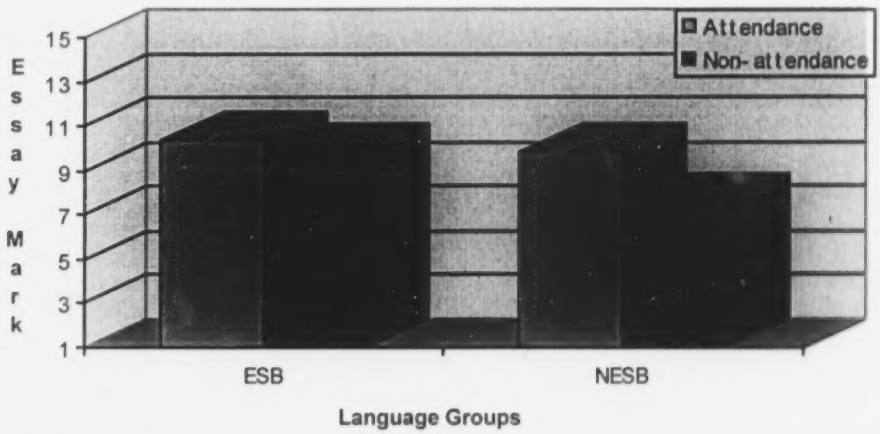
Evaluation: Quantitative Results

Although attendance at the workshops was high, there were a number of students who chose not to attend the essay writing tutorial (these were marked as absent on the role and formed the control group). A statistical analysis was carried out to compare the essay marks of students who attended the workshop against those who did not using a 1-factor Analysis of Variance Test (ANOVA). This analysis showed that the students who attended received significantly higher marks than those who did not ($p = .0087$) (see Figure 2 below).

Because there were a high number of NESB students in this cohort, the results were analysed using a 2-factor ANOVA to compare the results of the ESB attends and non- attendees with the NESB attendees and non-attendees. The ANOVA results indicated that the NESB students scored significantly lower than the ESB students ($p = .0001$)(see Figure 2 below). While there may be other variables involved in the success of these students, statistical analysis indicates that both ESB and NESB students who attended the essay writing workshop performed at a higher level than their counterparts.

[8] These students were offered English language assistance via the Learning Resource Centre.

Figure 2: Students' Essay Results according to their Language Background and Attendance at the Essay Writing Workshop



	Attendance	Non-Attendance	Total	(p=.0087)
ESB	10.36	9.77	10.15	
NESB	8.91	7.6	8.39	
TOTAL	10	9.15	9.69	
(p=.0001)				

Evaluation: Qualitative Results

To complement the quantitative results, a survey was carried out in the final week of the session to gather specific information about the workshops' content, delivery and resources in order to gain feedback on students' perceptions of the effectiveness of the integrated resources and workshop. An analysis of the results follows: [9]

- Of those who attended, 74% of the responses to the integrated resources and workshop were positive, 19% indifferent, and the remaining 7% negative.
- In support of the integrated approach, 92.5% of students liked the fact that the workshop was offered within the subject, and a further 46% stated they would not have attended a workshop in their own time.
- With respect to under-estimating the basic skills of new students, 76% felt they had learnt new skills about essay writing, and only 28% felt they needed more.
- In terms of student application and transferability of the resources, 74% used the resources in preparation for their major essay assignment, and 44% used them for other subject assessment tasks. 59% also felt that using the resources had improved their marks. This student perception is supported by the quantitative results that show that students' attendance at the workshop had a significant impact on their essay marks.

The delivery of the workshop was also evaluated: feedback was very positive with 92.5% of students agreeing that the information was clearly explained. The remaining 7.5% of the cohort

[9] Of the 90 students surveyed 54 attended the workshop while 36 did not.

were indifferent. The survey also showed that 85% of students would recommend this type of integrated workshop to other students.

Overview

In conclusion, these results suggest that the integration of resources and instruction into the curriculum of MGMT110 did have an impact on students' learning outcomes in the subject. An important finding of this intervention is that the NESB cohort needs increased learning and language support within the curriculum for 1999. On the basis of the success of this intervention, the curriculum of MGMT110 is currently being redesigned for flexible delivery. and will include a much greater level of developmental learning support in 1999. This will be integrated in such a way that it forms an 'invisible' part of the subject content.

Biology Case Study

The integration of instruction in generic and discipline-specific skills into core first year Biology subjects (*Evolution, Biodiversity and Environment* and *Molecules, Cells and Organisms*) was carried out during 1998. Instruction focussed on the discipline-specific reading, writing and study skills required by each curriculum. The first session subject *Evolution, Biodiversity and Environment* consisted of 220 Biology students who were joined by 130 extra students from Health and Behavioural Science (HBSc) in the 2nd session subject *Molecules, Cells and Organisms*.. Because the students from HBSc received no learning assistance inside their first semester curriculum, this cohort provided a unique opportunity to assess the effectiveness of the integration of instruction into BIOL104, with those students acting as a control group. This case study will detail the procedures involved in integration and the results of that integration in terms of learning outcomes for the student cohort.

Procedure

Autumn Session (BIOL104: *Evolution, Biodiversity and Environment*)

The following table (Table 3) summarises the procedures that were taken to prepare for and to carry out integration in Biology 104. It lists both the collaboration between Learning Development and subject staff and the steps taken to directly support students.

TABLE 3: Stages in the integration process in 1st session Biology

(Evolution, Biodiversity and Environment)

PROVISION OF ASSISTANCE TO STUDENTS	COLLABORATION BETWEEN LD AND BIOLOGY STAFF
	• Collaborative skills audit
	• Development of instructional resource
• Face-to face instruction in discipline-specific reading skills and study skills and provision of resources	
	• Collaborative development of instructional resources in report-writing
• Face-to-face instruction in report writing and provision of resources	
	• evaluation

Skills audit

An audit of the curriculum suggested that to successfully complete the course students needed to develop the following skills:

- effective and efficient reading and note-making;
- an ability to synthesise and integrate material from a number of sources;
- learning strategies appropriate to the nature of the discipline; and,
- writing in the genre required by the discipline.

Because BIOL104 was an entry level subject in the Biology program, it was expected that few students had been exposed to the genre of biology report writing at university level; thus the full range of tertiary literacy skills relevant to writing in Biology were identified as requiring instruction.

Instruction

Discipline specific support was integrated into the subject via two lectures/workshops and the production of supporting teaching materials and learning resources. These lectures/workshops were part of the students' regular curriculum and were provided when most appropriate to their needs and skills development. The first workshop dealt with effective and efficient reading and note-making; strategies to synthesise and integrate material from a number of sources; and learning strategies appropriate to the subject. It also presented the students with a model of how to create scaffolding before exposure to lecture material, enabling them to interact intellectually with the lecture material instead of just writing notes.

The second and more important workshop focussed on scientific/biology report writing utilising an annotated abridged report: this report was one which dealt with the content issues the students were to address in their first report assignment. The annotations on this abridged report were used as a tool which allowed students, working in small groups, to collaboratively deconstruct the text. To ensure that students understood the concepts involved, they were then asked to deconstruct a model report written by the content lecturer and to provide their own annotations to explain the text. This workshop provided students with an understanding and a model of the genre of report writing which they could use to construct their own reports.

This face-to-face instruction was supplemented by paper-based resources on all of the above topics. Such resources have become part of a formal part of the subject's learning resources and will be provided in the future as part of the student handbook for the subject.

Evaluation

Evaluation of the integrated instruction was made in terms of students' learning outcomes. This evaluation was carried out firstly by comparing the report assignment marks achieved by the 1998 and 1997 cohorts in this subject. Results of this comparison showed that there was a statistically significant difference between the two groups with the 1998 cohort achieving significantly higher marks.

Evaluation of this integration was also carried out at the beginning of 2nd session when an early report assignment allowed comparison of the level of tertiary literacy skills between this cohort and the group of 130 extra HBSc students who together constituted the 2nd session cohort. These two groups were effectively a treatment group that had received instruction during the session and a control group that had not. The assignment was assessed for both content knowledge and skills using an adaptation of the following MASUS criteria:[10]

- proper use of data and other resources (Criterion A);

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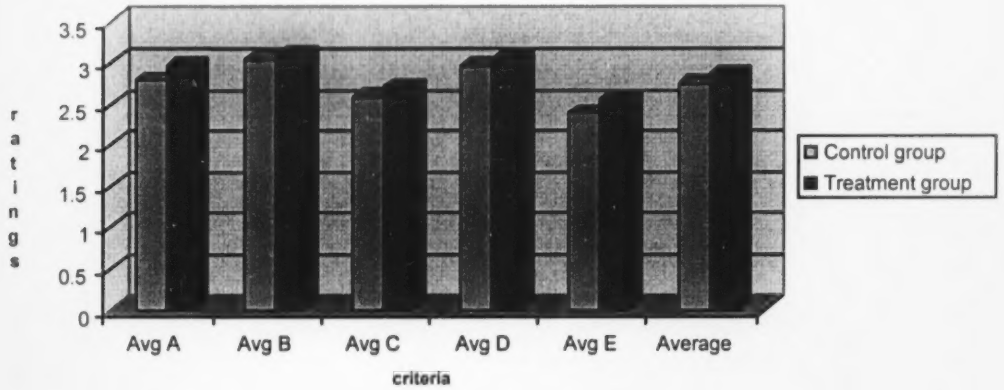
[10] For a fuller discussion of the criteria, see the following sub-section titled *Literacy Assessment*.

- suitable structure and development of answer/text (Criterion B);
- control of scientific language and writing style (Criterion C);
- grammatical correctness (Criterion D); and,
- suitable data analysis and presentation (Criterion E).

Analysis of the results achieved by the two cohorts showed that there was a difference in four of the five criteria (Criterion A, B, C and E) between the two cohorts, with those who had been previously exposed to integration in the previous session achieving at a higher level than those who had not been exposed to such integration) (see Figure 3 below). This difference was .statistically significant in Criteria A, C and E to .0001.

Figure 3. Comparison of the means in each criterion area between treatment group and control group



It should be noted that minimal instruction was given in Criterion B and no instruction was given in Criterion D, accounting for the lack of significant differences in these two criteria. Overall, the students who were provided with instruction inside the curriculum achieved at a higher level than those who had not. This result provides strong support for the suggestion that an integrated curriculum provides a valuable opportunity for students to acquire both content knowledge in a discipline and the skills that will support learning and success within that discipline.

Spring Session (BIOL103: *Molecules, Cells and Organisms*)

BIOL103 acts as the second stage of the first year biology program, and is also a service course for students from the Faculty of Health and Behavioural Sciences (HBSc); this combined class has student numbers of 350. The following table summarises the procedures that were taken to prepare for and to carry out integration in Biology 103.

Table 4: Stages in the integration process in 2nd session Biology

(Molecules, Cells and Organisms)

PROVISION OF ASSISTANCE TO STUDENTS	COLLABORATION BETWEEN LD AND BIOLOGY STAFF
	• Collaborative skills audit
	• Collaborative design of curriculum assessments
	• Development of staff resources
	• Marking workshop/planning session
• **Submission of first assessment task**	

	• Marking of first assessment
• Face-to-face feedback from Learning Development and faculty staff	
	• Collaborative development of student resources
• Follow-up instruction provided on-line	
	• Analysis of first assessment
	• Modification of criteria for assessment two
• **Submission of draft of second assessment task**	
• Instruction and peer assessment	
• **Re-submission of second assessment task**	
	• Marking of second assessment
• Feedback and follow-up instruction on-line	

Skills Audit

Two procedures provided a skills audit which identified which skills required further development. One was an analysis of the BIOL103 curriculum, in terms of content and assignments, and the other was an assessment of students' skills carried out on the first assignment. The curriculum analysis suggested that the skills necessary for success within the subjects's written assignments were the following report writing sub-skills:

- proper use of data and other resources (Criterion A);
- suitable structure and development of answer/text (Criterion B);
- control of scientific language and writing style (Criterion C);
- grammatical correctness (Criterion D); and,
- suitable data analysis and presentation (Criterion E).

Literacy Assessment

The first report assignment of the spring session was chosen as the basis for assessment using the MASUS diagnostic tool so that feedback from the assessment would inform the students' further attempts at report writing[11]. This tool has the ability to assess both generic and discipline-specific literacy criteria and covers criteria such as those listed above. Each criterion is rated across a range of one to four, with a rating of one or two suggesting the work has fallen below an acceptable level.

The assessment was carried out by subject staff with some assistance from learning development lecturers. This assistance was provided in the form of a marking handbook that explained the criteria and sub-criteria and gave examples of texts in which the criteria were met and examples in which they were not. Immediately prior to the students' submission of the first assessment task, Learning Development and Biology staff attended a workshop to discuss the criteria and to ensure parity between markers.

After assessments had been marked by subject lecturers, Learning Development entered assessment results into a database which was used to provide marking and feedback sheets to students and to analyse results across the whole cohort. The database allowed students to be given extremely detailed feedback sheets that displayed the rating they were given for each sub-criterion and an overall rating for each criterion. An overall mark was also recorded which was derived from the five criteria, some of which were differentially weighted. This weighted

[11] Comparison of the treatment and the control group also provided the basis for evaluation of the instruction provided in 1st session.

average score was used only for assessment purposes, while ratings for sub-criteria and criterion averages were provided to assist student development. This first assignment aslo provided the opportunity to evaluate the integration carried out in first session.

Further assessments were carried out on a second report assignment. This assignment was a staged writing task with a draft version required immediately prior to mid-session and a final version due after mid-session. The draft version was marked by peer markers using the MASUS criteria. The final version, which was a revised version that took into account the comments made by peer markers, was marked by subject lecturers and provided the basis for an evaluation of the learning outcomes for the total 103 cohort (see the following section on evaluation).

Instruction

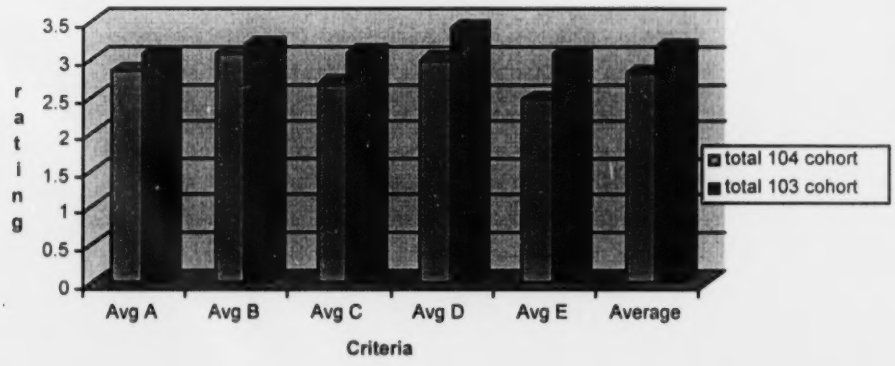
Instruction consisted of a number of face-face classes as well as both paper-based and web-based resources. The first class was a feedback session following the first report assignment which focussed on areas of weakness identified by the literacy assessment and which was team-taught by Learning Development and Biology staff. This instruction was supplemented by the provision of web-based resources that gave very detailed feedback about the five criteria (and twenty-one sub-criteria). This provided students with the flexibility to access information and instruction at any time.

The second face-to-face class was the peer-marking session in which students were given assistance in marking first drafts of the second report assignment: again this was conducted by both Biology and Learning Development staff. During this class, the knowledge that students had gained from the previous assignment, from the feedback and from the on-line resources was supplemented with further instruction in how to assess assignments on both literacy and content criteria. The peer- marking session provided a valuable opportunity for the students to see that their knowledge of Biology writing had improved to the point at which they could provide constructive feedback to their peers.

Evaluation

The provision of this integrated curriculum in 2nd session was evaluated in terms of learning outcomes for students, ie. the amount of improvement in the MASUS criteria from the first to the final report assignment. Results showed that there was statistically significant improvement (*p values* .0001) in all of the five criteria (see Figure 4 below). It should be noted that higher ratings in Criterion B and D in the second report can be attributed to the addition of further instruction in these areas following the first report.

Figure 4. Results in each crierion area before and after intervention in 2nd session



Evaluation was also made of how markers used the assessment criteria. Analysis of variance between markers was very low suggesting that improvement was not the result of disparity between markers, but was the result of the interventions carried out within the curriculum.

The significant results achieved by the treatment group and by both groups in the final report suggest that instruction integrated into curricula does achieve valuable learning outcomes. The improvement shown in students' skills in this instance is the result of the curriculum development that took place. It can be said that integration of instruction in discipline-specific literacy skills into the curriculum propels the development of students' acquisition of skills and increases the rate at which the students proceed through the writing apprenticeship that is part of the transition from secondary to tertiary study.

CONCLUSION

The IDEALL model offers an innovative model of how learning assistance can be provided to students in the tertiary setting in a way that is equitable, cost-effective and efficient. In the past, learning assistance has been seen as a remedial strategy aimed at only a minority of students who were seen as 'deficient'. It was offered in the spirit of equity but was a strategy of high costs and low returns in terms of the numbers of students given assistance and in terms of overall learning outcomes for institutions as a whole.

The IDEALL model has at its base a philosophy which recognises that all students need to develop skills quite specific to tertiary and disciplinary contexts. Because the model rests on the integration of instruction in curricula, it can provide a platform for assisting students' learning that can equitably and easily reach all students within a subject cohort and large numbers of students across an institution and can significantly impact on student learning in the very skills needed by curricula. This paper has provided evidence from two case studies of integration which suggests that statistically significant improvements in both generic and discipline-specific literacy skills can be achieved with the use of this model of integration. This was achieved via collaboration between discipline and literacy specialists in the enrichment and development of the curriculum and the design and integration of instruction into curricula.

This approach allows the potential for academic staff to engage in reflective practice about their teaching and offers a supportive infrastructure for curriculum redesign and experimentation with new teaching/learning approaches. Another important aspect of the IDEALL approach is that although it is typically implemented in a first year core subject within a department and faculty, it can provide the starting point for the integration of tertiary literacy throughout an entire 3 or 4 year degree program. Such systemic integration will ensure that as students progress through their degree programs they will have a greater chance of acquiring the set of skills required by the curriculum and the profession.

In the current climate of higher education, it is increasingly important for Learning Centres to operate in more effective and efficient ways and to ensure that their work is informed by concerns such as equity and access. It is also important for them to be able to measure the outcomes of their efforts and show the effectiveness of that effort. The IDEALL approach to learning development, as it has been implemented at the University of Wollongong, has allowed staff to take account of both of these issues. It has proven to be a model which is able to offer equitable and accessible skills development to all students and to foster improved learning outcomes. By developing a strong collaborative relationship between discipline and learning development academics, the scope of support available to students is widened.

Bibliography

Baldauf, R. (1997). Tertiary Literacy Policies: Needs and Practice. in Z. Golebiowski (ed.) *Selected Proceedings of the First National Conference on Tertiary Literacy: Research and Practice, Vol. 1. Academic Discourse across Disciplines and Cultures.* Victoria University of Technology, Melbourne.

Lea, M. & Street, B. (1998). "Student Writing in higher Education: an academic literacies approach". *Studies in Higher Education*, Vol 23, No 2.

McKenna, K. & Haslehurst, P. (1996). Induction Program For 1st Year Students At Curtin Business School. *Proceedings of the 1996 HERDSA Conference.*

McLean, P., Surtie, F., Elphinstone. L. & Devlin, M. (1993) "Models of Learning Support in Victorian Universities: Issues and Implications". *Higher Education Research and Development*, **14 (1)**:

Merten, M., Murray, P. & Quinlan, A. (1995). Facilitating First Year Students' Transition Into University and Disciplinary Cultures. *Proceedings of the 1995 Biennial Education Conference, UNSW: The Changing University.*

Quinlan, A. & Merten, M. (1998). Embedding Opportunities for Student Resilience for Academic Success in Professional Disciplines, Conference Proceedings of the International Consortium for Educational Development. Paper presented at Higher Education Conference: Supporting Educational, Faculty and TA Development Within Departments and Disciplines, Austin, Texas.

Ramsden, P. (1992). *Learning to Teach in Higher Education*, London, Routledge.

Skillen, J. & Mahony, M. (1997). Learning and Literacy Development in Higher Education: An Issue of Institutional Change. *Proceedings of the 1997 AARE Conference.* URL: http://www.swin.edu.au/aare/conf97.htm